WHAT IS CLAIMED:

1. A solid state device including a plurality of layers, each layer including an active region and a termination region, at least two layers including termination regions that comprise a varying charge profile extending from the active region, laterally through the termination region towards the edge of said termination region.

2. The device of claim 1 wherein all of said layers include a varying charge profile.

3. The device of claim 1 wherein the varying charge profile of each layer is different from said varying charge profile for other layers.

4. The device of claim 3 wherein said varying charge profile of each layer is different from said varying charge profile for other layers.

5. The device of claim 4 wherein said varying charge profile on at least one layer comprises discrete deposits of charge that vary in total volume.

6. The device of claim 4 wherein said varying charge on each layer comprises discrete deposits of charge that vary in spacing from one another.

7. The device of claim 4 wherein said charge profile on each layer varies substantially linearly with distance away from said active region.

8. The device of claim 4 wherein charge varies along a vertical cross section through multiple layers of said termination region at a fixed distance from said active region in a substantially linear manner.

9. The device of claim 7 wherein charge varies along a vertical cross section through multiple layers of said termination region at a fixed distance from said active region in a substantially linear manner.

10. A solid state device having plural epitaxial layers, each epitaxial layer including a termination region, the termination region being doped with a plurality of p- dots of charge which vary along the termination region in their volume or spacing, the volume and spacing of said charge dots being different on at least two different layers of said device.

11. The solid state device of claim 10 wherein the volume and spacing of the dots on each layer is such that a substantially constant field strength is achieved moving away from the active region along any layer or moving upwards through the layers along any vertical cross section.

12. A method of constructing a solid state device comprising the steps of:

forming a first layer including an active region and a termination region using a first mask; and

forming at least a second layer including an active region and a termination region using a second mask, the first and second masks being different for the portions corresponding to the termination region.

13. The method of claim 12 wherein the step of forming at least a second layer includes using a second mask that is substantially identical to the first mask in the portion corresponding to the active region.

14. A method of forming termination region for a solid state device, the termination region having a width and a depth, the method comprising the steps of:

(a) doping the termination in varying charge concentrations along the width; and

(b) doping the termination in varying charge concentrations along the depth.

15. The method of claim 14 wherein the step (a) of doping includes placing discrete deposits of charge of varying volume along a horizontal cross section of said termination region.

16. The method of claim 14 wherein said steps (a) and (b) comprise doping in concentrations such that field strength along any horizontal or vertical cross section is no greater than 15 volts per micrometer.